

Recommendations for Shared Goggle Cleaning
American Chemical Society
Joint Board-Council Committee on Chemical Safety

1 June 2009

Introduction

Chemical safety goggles are often a shared commodity in secondary schools and in various programs such as the American Chemical Society's *Kids in Chemistry* and *National Chemistry Week* activities. Teachers and parents of children participating in school and other chemistry-related activities may be concerned with disease transmission associated with the reuse of protective chemical goggles.

The Safe Practices Subcommittee of the American Chemical Society's Committee on Chemical Safety (CCS) was tasked to investigate and make recommendations regarding cleaning goggles for reuse.

The successful transmission of disease requires a number of factors to simultaneously occur¹:

- The presence of a pathogen that is virulent enough to cause disease.
- The concentration of the pathogen must be high enough to cause an infectious dose.
- There must be a transmission method from the environment to the host.
- The pathogen must enter the correct portal to the host.
- The host must be susceptible to the disease pathogen.
- The pathogen must be "strong" enough to overcome environmental stressors so as to remain active.

The first five bullet points above are sometimes referred to as the "chain of infection." The absence of any of these factors will prevent an infection.

The 5th edition of the Centers for Disease Control and Prevention (CDC)/ National Institutes of Health (NIH) 's *Biosafety in Microbiological and Biomedical Laboratories* states:

"To accomplish successful transmission [of disease] from an environmental source, all of these requirements for the "chain of infection" must be present. The absence of any one element will prevent transmission....Reduction of environmental microbial contamination by conventional cleaning methods is often enough to prevent environmentally mediated transmission."

Recommendations

After use, shared goggles, including the straps should be thoroughly washed in warm water containing a high-quality dishwashing detergent, thoroughly rinsed with fresh water and allowed to dry before the next use. This procedure should be sufficient to prevent environmentally transmitted disease.

According to the CDC, the washing protocol should provide adequate protection against common head lice (*Pediculus*). More information on the preventing the transmission of head lice can be found at <http://www.cdc.gov/lice/head/prevent.html> (accessed 4/25/09).

References Consulted

1. *Biosafety in Microbiological and Biomedical Laboratories, 5th ed.* United States Health and Human Services, Public Health Service, Centers for Disease Control and Prevention/National Institutes of Health, 2007. Appendix B. (This reference is available online at: <http://www.cdc.gov/OD/ohs/biosfty/bmbl5/bmbl5toc.htm> , accessed 4/25/2009).